
Enhancing a University's Health Science Curriculum With Homestudy Programs of the Center for Disease Control

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IN DEVELOPING NEW CURRICULUMS or enhancing established curriculum programs, educators are concerned with providing relevant courses of study that are factual, realistic, and provide an element of flexibility for individual instruction. The faculty of health science at Arizona State University is now cooperating with the Instructional Services Division, Bureau of Training, of the Center for Disease Control, Atlanta, Ga., in offering a homestudy program for both university credit and CDC certification.

The homestudy program is a system of self-instructional materials, provided by the Center, which guides the student through a course of study by requiring answers to selected questions based on authoritative references. At present, eight courses offered in the program are designed around disease prevention and control. (The courses are described on page 368.) The Bureau of Training makes the following general arrangements with an institution:

- For each completed application received, CDC will send a set of course lessons and the reference materials that are normally provided by the Center. Textbooks required for courses in the program must be purchased

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by the student. Grading templates for the regular assignments are provided by CDC.

- Three weeks before the date of the final examination, the institution informs CDC in writing or by telephone of the number of students who will be eligible to take the examination, and sufficient copies of the examination are sent to the course supervisor.

- Final examinations are graded at the Instructional Services Division of CDC, and the grades and certificates of satisfactory completion are returned to the instructor listed. If time is limited, the grades are usually reported first by telephone and then confirmed by mail.

- All unused or extra lesson materials are returned to the CDC office. Their return helps to eliminate use of out-of-date materials in the courses.

Evaluating the Program

Those who have designed community health education curriculums are familiar with the difficulties of providing a multi-faceted program of study with a faculty smaller than the number needed for maximum productivity and diversification. It was our impression that the CDC homestudy program provided a number of advantages that enhanced the health science curriculum at Arizona State.

- Departmental offerings were increased with a variety of courses that we would ordinarily have been unable to staff.

- Students were provided with practical courses that

emphasized learning and application of skills to public health roles in a variety of subject areas.

- Students could earn a CDC certificate of achievement for each course of study.

- Public health employers often regard these certificates as being similar to agency inservice training programs, since they are assured the student knows both theory and application. A number of agencies use these courses as a part of their formal inservice training programs.

- Students were provided an opportunity for individual counseling on a flexible schedule. If students experienced problems with a course, they could meet alone with the professor rather than in the traditional classroom environment.

Although the CDC homestudy program allows students to set their own learning pace, this freedom often has undesirable ramifications. Students must meet deadlines and must discipline and motivate themselves if they are to complete the course in a designated period. Further, all faculty members need to familiarize themselves with all the courses if the concept of individualized instruction is to be realized.

There are a number of tedious tasks involved in implementing a semester program of study using CDC materials (ordering the instructional materials, collating them once they arrive, ordering final examinations, and coordinating the ordering of associated textbooks for each of the courses).

All 35 students enrolled in 1 or more of the 6 courses offered during the spring 1978 semester were surveyed to obtain their evaluations of the program. Ninety-four

percent of the students considered the curriculum pertinent and relevant to community health and, overall, 84 percent believed that they had profited academically from the homestudy experience. The students indicated that the courses were practical and provided them with material that they had not gained in other classes that the department was able to offer.

Concerning the procedures of instruction, 81 percent of the students believed that the courses should be reviewed for precision and clarity with respect to specific study questions. However, only 42 percent indicated that the directions and instructions for problems and activities should be written more precisely.

Seventy-one percent indicated that the opportunity to study and move through the curriculum at their own pace outweighed the loss of group interaction, and 87 percent reported that they basically enjoyed the opportunity to do independent study. The programs, which included numerous individual counseling opportunities, truly made the concept of "individualization of instruction" a reality.

Recommendations

As a result of our experience with the homestudy program, we offer the following recommendations:

1. One person should be responsible for obtaining all materials necessary for the program, including ordering the textbooks and the final examinations for each course.

2. Materials should be ordered early and then collated on arrival so that missing materials can be obtained.

3. A suggested schedule for submission of assignments should be developed and distributed at the first class meeting.

4. A minimum of two meetings with the total class should be held—an initial meeting to cover course procedures and expectations and a midterm meeting to discuss students' progress and examine problems that they face.

5. Regular office hours for discussing individual problems with students should be established.

6. Persons coordinating the courses should become familiar with all the materials needed for each course

so that missing material can be quickly identified and ordered.

7. A series of days for administering final examinations for the courses should be established. This scheduling will aid students who are enrolled in more than one course, particularly those enrolled in courses with two-part examinations.

8. Students should not be allowed concurrent enrollment in more than two courses during any semester except under unusual circumstances. This restriction is particularly pertinent if the CDC courses are taken in addition to other academic courses.

Homestudy Courses of the Center for Disease Control

1. **Community Hygiene 3010-G.** The course is divided into 17 lessons. Procedures for the control of diseases spread through polluted water, milk, food, and swimming pools; health hazards from sewage, faulty plumbing, refuse, and vectors; industrial and institutional hygiene; and other selected problems are explored. The course is based on "Municipal and Rural Sanitation" by V. M. Ehlers, and E. W. Steel, McGraw Hill Book Company. This textbook must be ordered by the university bookstore.

2. **Communicable Disease Control 3012-G.** The lessons in this course are morphology and reproduction of microbes; influence of the environment on microbes; quantitative and qualitative considerations regarding bacteria under varying circumstances; the mechanism whereby pathogens cause disease; body defenses; arthropod-borne diseases; and the etiology and control of parasitic infections, of diseases of animal origin, and of food-borne, milk-borne, and water-borne diseases. The student progresses through a program of study that stresses modern control concepts of those communicable diseases which depend for their spread upon favorable environmental conditions.

The course is based on "Microbiology" by K. L. Burdon and R. P. Williams, MacMillan Publishing Co., Ed. 6, 1968. This text must be ordered by the university bookstore.

3. **Vector-Borne Disease Control 3013-G.** Comprehensive coverage of vector control is obtained through the

11 lessons contained in the CDC training material. Titles of the lessons are arthropods of public health importance; insecticides; insecticide application equipment; sanitation in vector control; biology and control of flies; biology and control of mosquitos; biology and control of fleas and lice; biology and control of ticks and mites; household and stored food insects; biological factors in domestic rodent control; and control of domestic rats and mice. All instructional materials are furnished by CDC.

4. **Waterborne Disease Control 3014-G.** This 11-lesson course is designed to give public health workers a general knowledge of the procedures and factors involved in the prevention and control of waterborne diseases. It is not intended to be a technical presentation on water treatment, but rather emphasizes principles of disease control that may be applied to obtain a safe product. All materials are furnished by CDC.

5. **Environmental Protection 3015-G.** This 11-lesson course presents the rationale for the management of water resources, of excreta and waste waters, of environmental or solid waste, of insect and rodent control, of food, and of exacerbations of physical energy to prevent the impairment of health, to promote efficiency and comfort, and to safeguard the balances in the ecosystems. The principles of environmental protection are emphasized. The text, which must be ordered by the university bookstore, is "Environmental Protection" by E. T. Chanlett, McGraw-Hill Inc., 1973.

6. **Foodborne Disease Control 3016-G.** This course, in 11 lessons, offers practical information about the common foodborne diseases, the conditions that favor their transmission, the methods that effectively control them, and the legal and administrative aspects of control and enforcement. The text, which must be ordered by the university bookstore, is "Quantity Food Sanitation" by V. K. Longree, John Wiley & Sons, Inc., 1967.

7. **Community Health Analysis 3020-G.** This course describes step-by-step procedures for each of five analytic techniques relevant to community identification and characterization. The 13 lessons are designed so that persons who complete the course will be able to analyze characteristics of the population of a community and its component subareas; perform, or direct the performance of a community block survey; and stratify the community socioeconomically on the basis of either housing condition information (from the block survey) or selected census data—to provide a basis for analyzing health data.

8. **Principles of Epidemiology 3030-G.** This 6-lesson introductory course in epidemiology is designed primarily for State and local public health personnel who have, or expect to have, responsibility for either disease surveillance or disease investigation. All basic materials for the course are provided by CDC, although there are several ancillary texts that may be utilized.